

**ABSTRACT**

An IEEE 1394-based unidirectional ring system for an indoor backbone network is disclosed. In the ring system, an RG is used for connection to an external large-capacity network, and an SG is connected to the RG. The SG functions as a  
5 clock master to synchronize whole clock signals in the system, manages traffic in the indoor backbone network, manages buses in the indoor backbone network, and monitors the physical states of transmission lines in indoor backbone network. The SG and the SPs form a unidirectional ring structure. A plurality of SPs is configured to load the user data over the indoor backbone network or extract user-desired data  
10 from the indoor backbone network to provide user-desired services to a user.